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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/763,025	02/16/2001	Tomohiro Ishihara	50395-084	2652

7590

10/01/2003

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Washington, DC 20005-3096

EXAMINER

HOFFMANN, JOHN M

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 10/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/763,025

Applicant(s)

ISHIHARA ET AL.

Examiner

John Hoffmann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
 Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) 3 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2 and 4-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 18 June 2003 has been entered.

Election/Restrictions

Newly amended/submitted claim 3 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The originally presented claims were directed to heating the preform in a vacuum (i.e. the heating starts out in a vacuum). However, claim 3 now requires that the vacuum is created while the preform is being heated. Claim 3 is drawn to a species which is mutually exclusive of the invention which was originally presented, searched and examined. There doesn't even seem to be any support for a step of removing gas "while" heating.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 3 is withdrawn

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from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-2, 4-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, line 3 is not understood. It refers to a "heating step of vertically inserting". It is unclear if such is to be interpreted as a heating step while inserting, or after inserting, or before inserting. Inserting and heating are generally not related activities.

Claim Objections

Claim 2 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 1 requires that the heating step occurs in the reduced pressure atmosphere. However claim 2 requires that the gas is removed "while" heating. These are two mutually exclusive things: claim 1 requires the air removed and

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then the heating, whereas claim 2 has them simultaneous. Claim 2 has a scope that is completely outside the scope of claim 1, and thus claim 2 fails to further claim 1. Claim 2 is not further treated on the merits.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over IshikawaJP 10-81532.

The following is based on the English abstract and a discussion with a PTO translator. A complete translation should be obtained by the PTO by

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October 25, 2003. Applicant may contact Examiner after October 25, 2003 to request that the translation be faxed to Applicant.

Ishikawa discloses the invention except for the heating period. It would have been an obvious matter of routine experimentation to determine the optimal heating duration.

To address the rest of the claim limitations:

As indicated in the rejection above, it is unclear what is meant by a "heating step of vertically inserting". It is deemed that the broadest interpretation of this is: *heating step or vertically inserting*. Examiner is uncertain whether this is the broadest **reasonable** interpretation, but Examiner can only guess as to what interpretations would be reasonable. Regardless, it appears from the Ishikawa drawings that the preform was vertically inserted.

As to the vapor phase synthesis: Body 11 is identified as a "soot" body; soot is a byproduct of combustion: a vapor phase process/synthesis was used to create it.

The vacuum heating of 1000-1400: Ishikawa discloses heat treating at 1300 C

As to the second heating "while" the temperature is controlled within the range of 1400-1480. Figure 2 of Ishikawa clearly shows heating simultaneous with controlling. However the heating while controlling within the 1400-1480 looks to be only 20 minutes or so. It would have been an obvious matter of routine experimentation, depending upon the glass composition and the final temperature achieved.

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heating of 1400-1480: Ishikawa discloses 1450-1650. As to the cooling, it would have been obvious to cool it so that it can be handled.

As to the 1000mm limitaion: it would have been obvious to make the preform as large as desired: depending upon how much fiber is desired. Alternatively, it would have been obvious to elongate it to be over a 1000mm, because it is a preform for making fibers and most building that are connected by optical fibers are much more distant from each other than 1000 mm.

The overlap of the Ishikawa ranges provide prima facie showing of obviousness:

2144.05 [R-1] Obviousness of Ranges

See MPEP § 2131.03 for case law pertaining to rejections based on the anticipation of ranges under 35 U.S.C. 102 and 35 U.S.C. 102/103.

I. OVERLAP OF RANGES

In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990) (The prior art taught carbon monoxide concentrations of "about 1-5%" while the claim was limited to "more than 5%." The court held that "about 1-5%" allowed for concentrations slightly above 5% thus the ranges overlapped.); In re Geisler, 116 F.3d 1465, 1469-71, 43 USPQ2d 1362, 1365-66 (Fed. Cir. 1997) (Claim reciting thickness of a protective layer as falling within a range of "50 to 100 Angstroms" considered prima facie obvious in view of prior art reference teaching that "for suitable protection, the thickness of the protective layer should be not less than about 10 nm [i.e., 100 Angstroms].") The court stated that "by stating that suitable protection is provided if the protective layer is about 100 Angstroms thick, [the prior art reference] directly teaches the use of a thickness within [applicant's] claimed range."). Similarly, a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but

are

close enough that one skilled in the art would have expected them to have the same properties. Titanium Metals Corp. of America v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (Court held as proper a rejection of a claim directed to an alloy of "having 0.8% nickel, 0.3% molybdenum, up to 0.1% iron, balance titanium" as obvious over a reference disclosing alloys of 0.75% nickel, 0.25% molybdenum, balance titanium and 0.94% nickel, 0.31% molybdenum, balance titanium.).

> "[A] prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness." In re Peterson, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir. 2003).

However, if the reference's disclosed range is so broad as to encompass a very large number of possible distinct compositions, this might present a situation analogous to the obviousness of a species when the prior art broadly discloses a genus. Id. See also In re Baird, 16 F.3d 380, 29 USPQ2d 1550 (Fed. Cir. 1994); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992); MPEP § 2144.08.<

Claim 6, see figures 1 and 3

Claims 4-5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa as applied to claim 1 above, and further in view of Brown 5656057.

Brown uses a segmented furnace as claimed in claim 4 so as to increase the rate of preform production (col. 4, lines 37-42 for instance). It would have been obvious to improve the Ishikawa method by using the Brown furnace for the reasons given by Brown.

Claim 5: See Brown, col. 6, lines 22-32.

Claim 7, See figure 4 of Brown.

Response to Arguments

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

The arguments are that the temperature range is a new concept for large preforms. The art of record clearly demonstrates that the range is not inventive. In addition to the broad range of Ishikawa: various reference already of record mention specific embodiments that are within the claimed range. Most

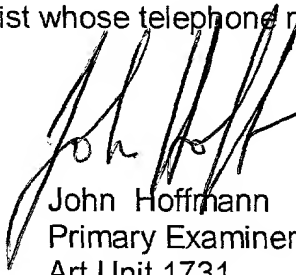
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importantly Brown disclosed in preforms 3 times the length of that claimed with a temperature between 1400-1450.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is 703-308-0469. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 703-308-1164. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.


John Hoffmann
Primary Examiner
Art Unit 1731
9-26-03